

CLAIMS

- 1 1. A medium for a scintillation assay, said medium comprising:
2 a first scintillator material which is a fluorescent Coumarin dye having
3 a Stokes shift of at least 50 nm.
- 1 2. The medium of claim 1, wherein said dye is further
2 characterized in that it has a fluorescent emission in the range of 460-500 nm.
- 1 3. The medium of claim 1, wherein said dye has a Stokes shift of
2 at least 100 nm.
- 1 4. The medium of claim 1, wherein said medium further includes a
2 second scintillator material.
- 1 5. The medium of claim 4, wherein said second scintillator
2 material is selected from the group consisting of: PPO, bis-MSB, DPA, and
3 combinations thereof.
- 1 6. The medium of claim 1, wherein said medium is a solid polymer
2 having said Coumarin dye incorporated therein.
- 1 7. The medium of claim 6, further including BiBuQ incorporated
2 therein.
- 1 8. The medium of claim 1, wherein said medium comprises a
2 liquid having said Coumarin dye dissolved therein.
- 1 9. A method for carrying out an assay for detecting or quantifying
2 a radio nuclide emission, said method comprising the steps of:
3 providing a scintillation medium which contains a first scintillator
4 material which is a Coumarin dye having a Stokes shift of at least 50 nm;

5 contacting said scintillation medium with an analyte suspected of
6 having said radionuclide therein; and
7 detecting any scintillation caused in said medium by said radionuclide.

1 10. The method of claim 9, wherein said Coumarin dye is further
2 characterized in that it has a fluorescent emission at 460-500 nm.

1 11. The method of claim 9, wherein said Coumarin dye has a Stokes
2 shift of at least 100 nm.

1 12. The method of claim 9, wherein said scintillation medium is a
2 solid member.

1 13. The method of claim 9, wherein said scintillation medium is a
2 liquid.

1 14. The method of claim 9, wherein said scintillation medium
2 further includes a second scintillator material.

1 15. The method of claim 14, wherein said second scintillator
2 material is selected from the group consisting of: PPO, bis-MSB, DPA, BiBuQ,
3 and combinations thereof.

1 16. A solid state member for a scintillation proximity assay, said
2 member comprising:

3 a polymeric material having a first scintillator material which is a
4 fluorescent Coumarin dye incorporated therein, said Coumarin dye further
5 characterized in that it has a Stokes shift of at least 50 nm.

1 17. The member of claim 16, wherein said dye is further
2 characterized in that it has a fluorescent emission in the range of 460-500 nm.

1 18. The member of claim 16, wherein said dye is further
2 characterized in that it has Stokes shift of at least 100 nm.

1 19. The member of claim 16, wherein said Coumarin dye is selected
2 from the group consisting of Coumarin 153, Coumarin 152, and combinations
3 thereof.

1 20. The member of claim 16, further including a second scintillator
2 material therein.

1 21. The member of claim 20, wherein said second scintillator
2 material is selected from the group consisting of: PPO, bis-MSB, DPA, BiBuQ,
3 and combinations thereof.

1 22. The member claim 16, wherein said polymeric material is
2 configured as a bead.

1 23. The member of claim 16, wherein said polymeric material is
2 configured as a vessel for retaining a liquid.

1 24. The member of claim 16, wherein said polymeric material is
2 applied to the surface of a vessel configured to retain a liquid.

1 25. A liquid scintillation cocktail comprising:
2 a first scintillator material which is a fluorescent Coumarin dye having
3 a Stokes shift of at least 50 nm; a second scintillator material selected from the
4 group consisting of: PPO, bis-MSB, DPA, combinations thereof; and
5 a solvent for said first and second scintillator materials.

1 26. The liquid scintillation cocktail of claim 25, wherein said
2 Coumarin dye is further characterized in that it has a fluorescent emission in
3 the range of 460-500 nm.

1 27. The liquid scintillation cocktail of claim 25, wherein said
2 Coumarin dye is further characterized in that has a Stokes shift of at least 100
3 nm.